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2 Unlike other organs, the heart is constantly beating, and fast scanning is  
3 needed to image the heart faster than it beats. The fact that the heart beats  
4 continually, and the beating is increased by exercise, enables scanning of the  
5 heart while exercising to be compared to the heart at rest. The heart is first  
6 imaged at rest and then during an established protocol for exercise such as the  
7 Bruce protocol. Cardiopathic scars in the heart such as from a myocardial  
8 infarction will often be indicated by a scan during exercise, showing both  
9 electrical and wall motion (contractility) abnormalities. Along with the ECG,  
10 echocardiography can employ a two-step platform, a treadmill or a stationary  
11 bicycle for physical exercise but requires a technician to hold the transducer. It is  
12 less costly even though PET and helical CT scanning may be more accurate.  
13 Since they are done with the patient more confined, CT, PET and MRI scanning  
14 need to use chemical inotropic means such as dobutamine more, but even with  
15 echocardiography which can be done in conjunction with a treadmill, the lack of  
16 body movement renders improved imaging. Of course, if the patient is unable to  
17 exercise at all, regardless of the means used to scan, inotropic drugs are required.

18 There has been literature reporting the use of d-ribose in energizing cardiac  
19 muscle that has been compromised by ischemia resulting in cardiopathic  
20 segments. As a result of this research it has been noted by Pliml, et al. that when  
21 ribose in substantial amounts is given to individuals with coronary artery disease,  
22 there is identification of nearly twice the number of reversible thallium 201  
23 defects with the use of ribose than with placebo. Pliml was not interested in  
24 detecting new defects diagnostically but rather used subjects whose defects were  
25 already known in an effort to make angina pain less and reduce ST segment